Notice of Allowability	Application No.	Applicant(s)	
	10/063,471	KLINGE ET AL.	
	Examiner	Art Unit	
	Dixomara Vargas	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed on 05/20/04*.

2. ☒ The allowed claim(s) is/are *1,3,4,6,8-12,14,15,17,19,20,22,24 and 25*.

3. ☒ The drawings filed on *20 May 2004* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Sean F. Sullivan on July 15, 2004.

The application has been amended as follows:

In the claims:

Replace claim 1 with the following:

1. A multiple channel array coil for magnetic resonance imaging, comprising: an anterior section configured within a magnetic resonance imaging system; and a posterior section configured within the magnetic resonance system; said anterior and posterior sections displaced from one another about a first direction, and both of said anterior and posterior sections further comprising a left portion and a right portion displaced from one another about a second direction, with each of said left and right portions further comprising a superior coil element and an inferior coil element displaced from one another about a third direction; wherein each of said superior coil elements are arranged with an associated one of said inferior coil elements in an overlapping configuration, and each of said left portions are arranged with an associated one of said right

portions in a non-overlapping configuration; and wherein said left and right portions of said anterior section are symmetrically aligned over said left and right portions of said posterior section.

Replace claim 6 with the following:

6. A multiple channel cardiac array coil for magnetic resonance imaging, comprising: an anterior section configured within a magnetic resonance imaging system; a posterior section configured within the magnetic resonance imaging system; and said anterior and posterior sections symmetrically arranged and displaced from one another about a first direction, both of said anterior and posterior sections further comprising a left portion and a right portion symmetrically arranged and displaced from one another about a second direction, with each of said left and right portions further comprising a superior coil element and an inferior coil element symmetrically arranged and displaced from one another about a third direction; wherein each of said superior coil elements are arranged with an associated one of said inferior coil elements in an overlapping configuration, and each of said left portions are arranged with an associated one of said right portions in a non-overlapping configuration; and wherein each of said superior and inferior coil elements are generally rectangular in shape and are formed from a generally flat, conductive material.

Replace claim 17 with the following:

17. A method for configuring a multiple channel array coil suitable for use in sensitivity encoding for magnetic resonance imaging (MRI), the method comprising: arranging a

first set of individual coil elements into an anterior section configured within a magnetic resonance imaging system; and arranging a second set of individual coil elements into a posterior section configured within the magnetic resonance imaging system; wherein said anterior and posterior sections are displaced from one another about a first direction, and wherein both of said anterior and posterior sections are further arranged into a left portion and a right portion that are displaced from one another about a second direction, with each of said left and right portions further being arranged from a superior coil element and an inferior coil element displaced from one another about a third direction; and symmetrically aligning said left and right portions of said anterior section over said left and right portions of said posterior section; wherein each of said superior coil elements are arranged with an associated one of said inferior coil elements in an overlapping configuration, and each of said left portions are arranged with an associated one of said right portions in a non-overlapping configuration.

Replace claim 25 with the following:

25. The method of claim 22, wherein said anterior section is isolated from said posterior section by preamplifier decoupling.

Allowable Subject Matter

2. Claims 1,3, 4, 6, 8-12, 14, 15, 17, 19, 20, 22, 24 and 25 are allowed.

3. The following is an examiner's statement of reasons for allowance

a. With respect to claim 1, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a multiple channel

array coil for magnetic resonance imaging, comprising: anterior and posterior sections configured within a magnetic resonance imaging system with left portions arranged with an associated one of the right portions in a non-overlapping configuration; and wherein said left and right portions of said anterior section are symmetrically aligned over said left and right portions of said posterior section in combination with the remaining limitations of the claim.

b. With respect to claim 6, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a multiple channel cardiac array coil for magnetic resonance imaging, comprising: anterior and posterior sections configured within a magnetic resonance imaging system symmetrically arrange wherein the left portions are arranged with an associated one of the right portions in a non-overlapping configuration in combination with the remaining limitations of the claim.

c. With respect to claim 11, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a MRI system comprising: a RF system comprising: anterior and posterior sections with left portions arranged with an associated one of the right portions in a non-overlapping configuration; and wherein said left and right portions of said anterior section are symmetrically aligned over said left and right portions of said posterior section in combination with the remaining limitations of the claim.

d. With respect to claim 17, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a method for

configuring a multiple channel array coil suitable for use in sensitivity encoding for magnetic resonance imaging (MRI), the method comprising: arranging anterior and posterior sections configured within a magnetic resonance imaging system, symmetrically aligning the left and right portions of the anterior section over a left and right portions of the posterior section; and wherein the left portions are arranged with an associated one of the right portions in a non-overlapping configuration in combination with the remaining limitations of the claim.

e. With respect to claim 22, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a method of implementing sensitivity encoding for magnetic resonance imaging (MRI), the method comprising: applying an RF energy generated by an RF transceiver system that includes: anterior and posterior sections with left and right portions of the anterior section symmetrically aligned over a left and right portions of the posterior section wherein the left portions are arranged with an associated one of the right portions in a non-overlapping configuration in combination with the remaining limitations of the claim.

f. With respect to claims 3, 4, 8-10, 12, 14, 15, 19, 20, 24 and 25, the claims have been allowed over the prior art due to its dependencies on claims 1, 6, 11, 17 and 22 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dixomara Vargas
Art Unit 2859
July 16, 2004

Diego Gutierrez
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